Play with TikZ

Just Us

December 12, 2018

1 Chapter 8

ch8-1 sine, cosine, secant, csc, tan, cot
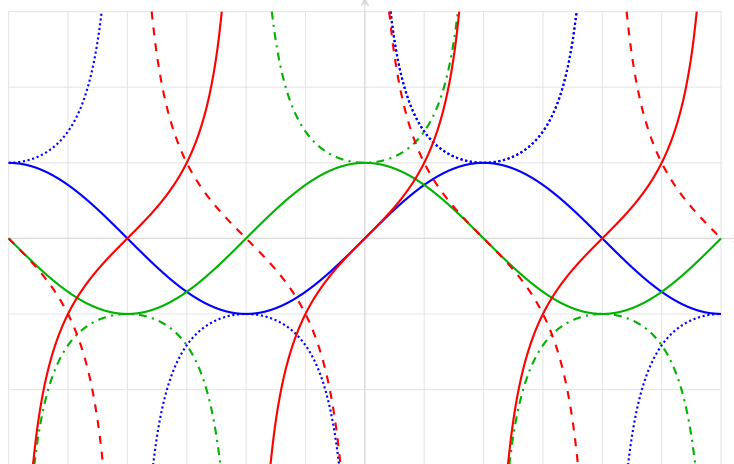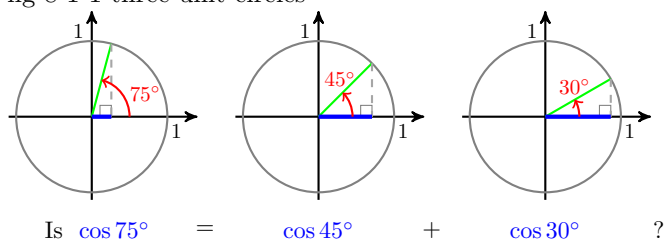

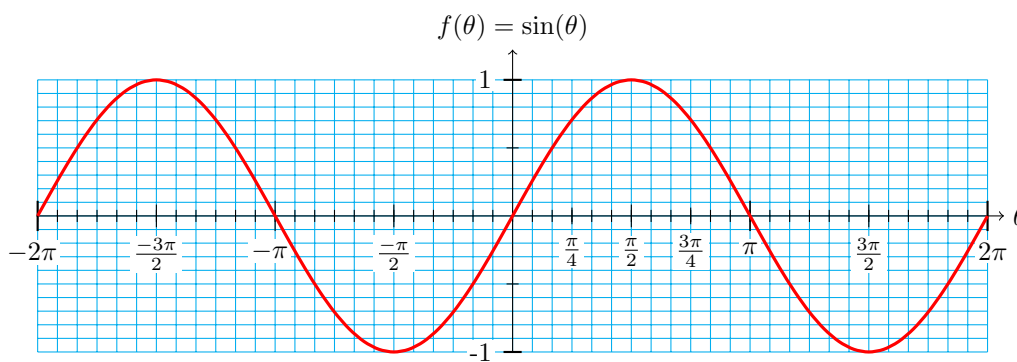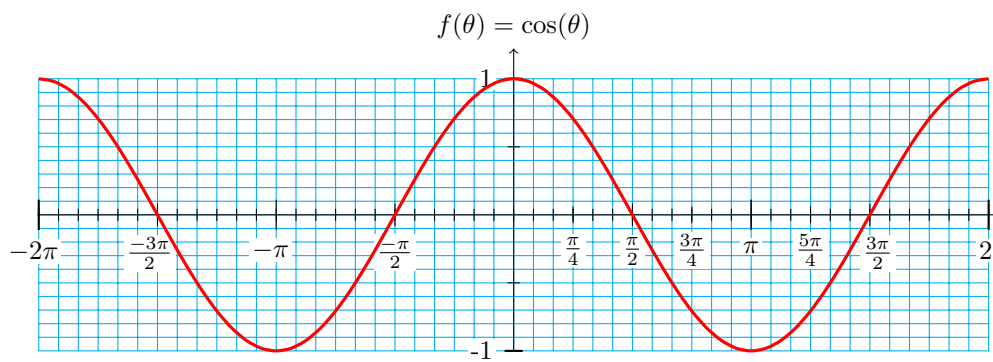fig-8-1-1 three unit circles

Is $\cos 75°$ = $\cos 45°$ + $\cos 30°$?

$f(\theta) = \sin(\theta)$

fig-8-1-2 sine graph

$f(\theta) = \cos(\theta)$

fig-8-1-3 cosine graph

$f(\theta) = \tan(\theta)$
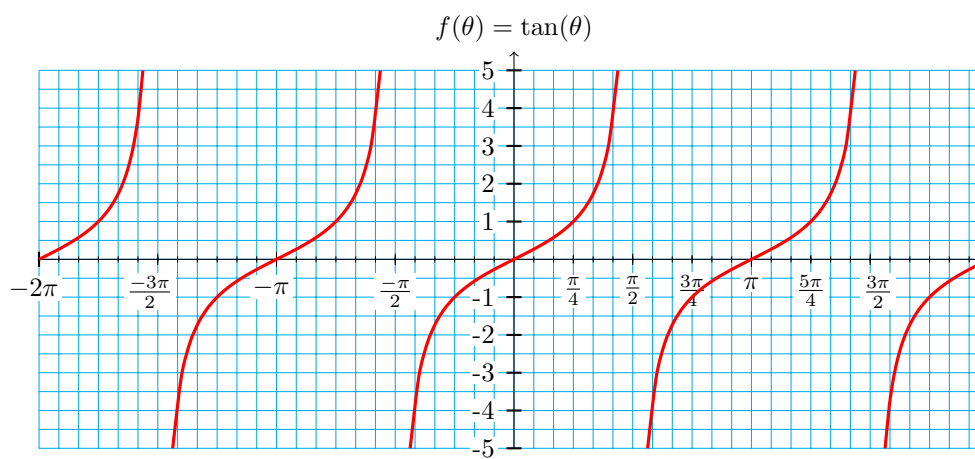
fig-8-1-4 tangent graph

exam8-1-6 right triangle

2

exam8-1-7right triangle

hp8-1-1ans angles

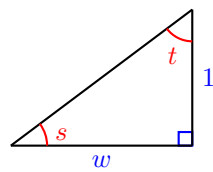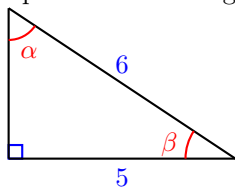hp8-1-3ans angles 7pi/12 and -7pi/12
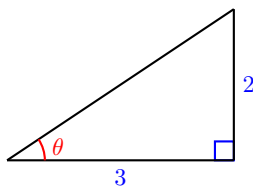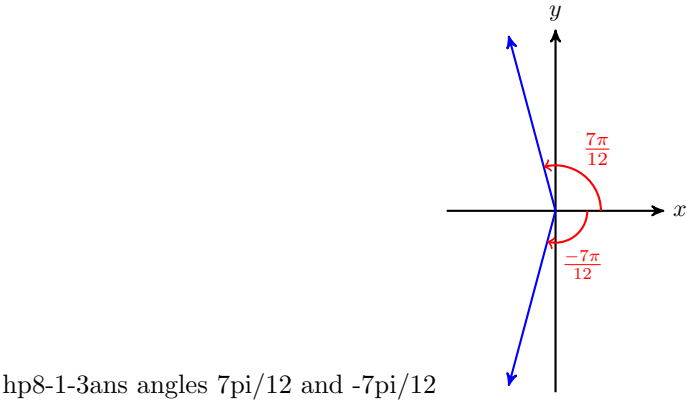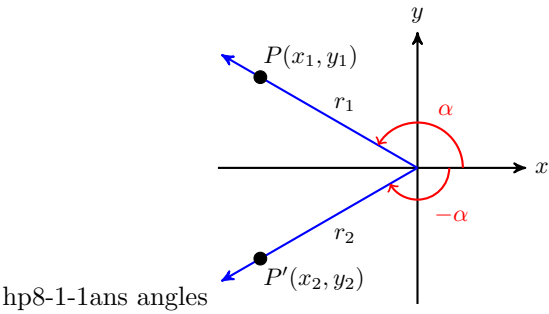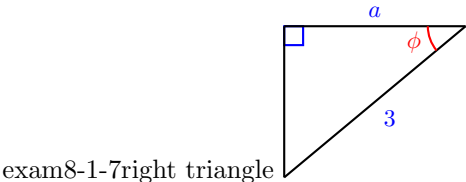
hp8-1-11ans
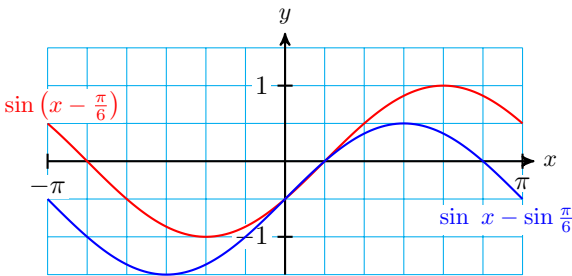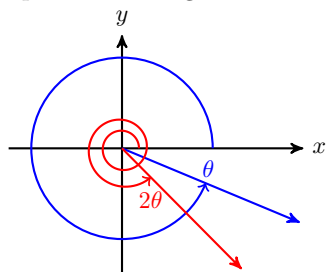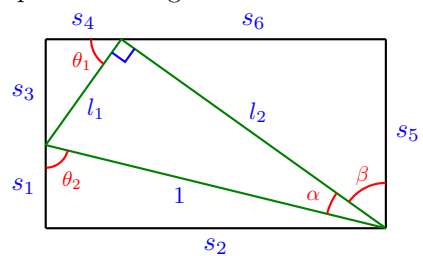

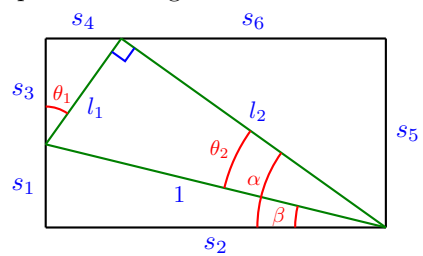hp8-1-19ans angles
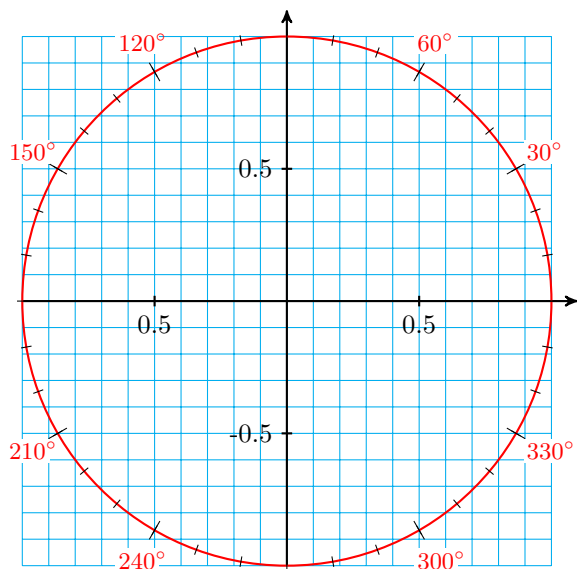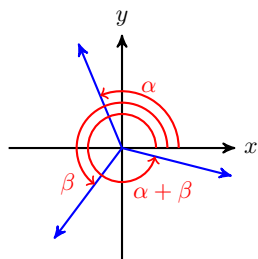
fig-4-2-unitcircle

hp8-1-55 two triangles

hp8-1-59ans angles

4

hp8-1-89 triangle inscribed in rectangle

hp8-1-89ans triangle inscribed in rectangle

$s_4 = \sin\alpha\cos\beta$ $s_6 = \cos\alpha\sin\beta$

$s_3 = \sin\alpha\sin\beta$

$l_1 = \sin\alpha$ $l_2 = \cos\alpha$ $s_5 = \cos\alpha\cos\beta$

$s_1 = \cos(\alpha+\beta)$

$s_2 = \sin(\alpha+\beta)$
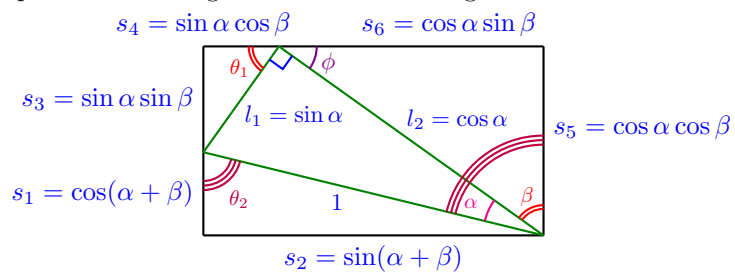
hp8-1-90 triangle inscribed in rectangle

hp8-1-91 unit circle for cosine identity

$A(\cos\alpha, \sin\alpha)$

$B(\cos\beta, \sin\beta)$

$\alpha - \beta$

α

β

;

fig-8-2-2 x^3 and $\sqrt[3]{x}$

$f(x) = x^3$

$y = x$
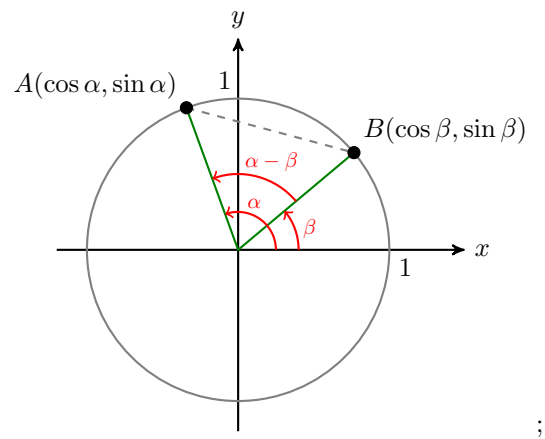
$f^{-1}(x) = \sqrt[3]{x}$
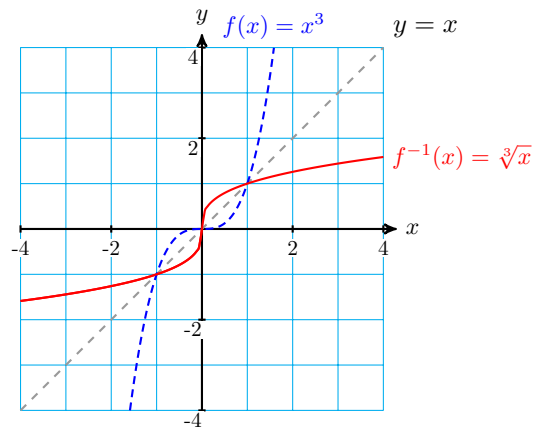
exam8-2-2 translations of reciprocal function

$f(x) = \frac{1}{x-3}$

$y = x$

$f^{-1}(x) = \frac{1}{x} + 3$
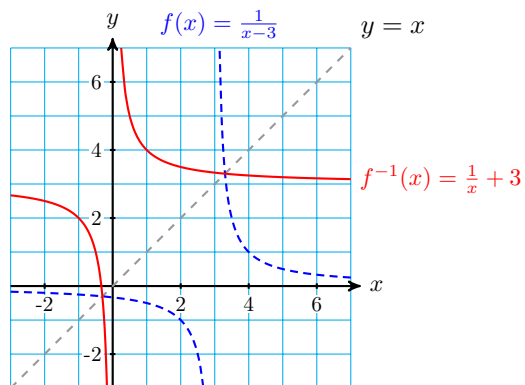
exam8-2-2alternate translations of reciprocal function
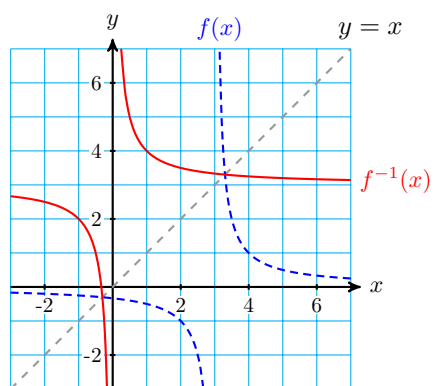
6

fig-8grid 8x8 grid
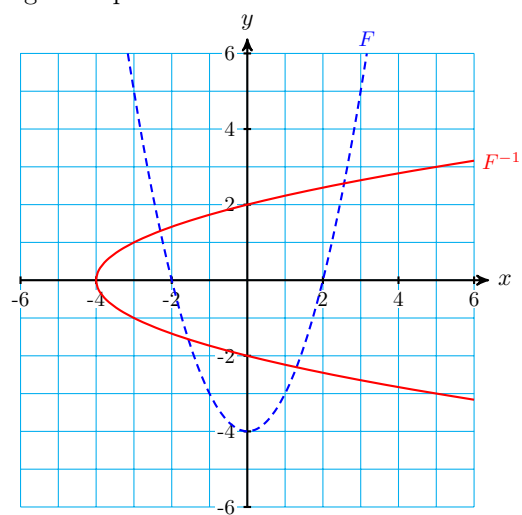
7

$g(x) = 2x - 6$

$g^{-1}(x) = \frac{1}{2}x + 3$
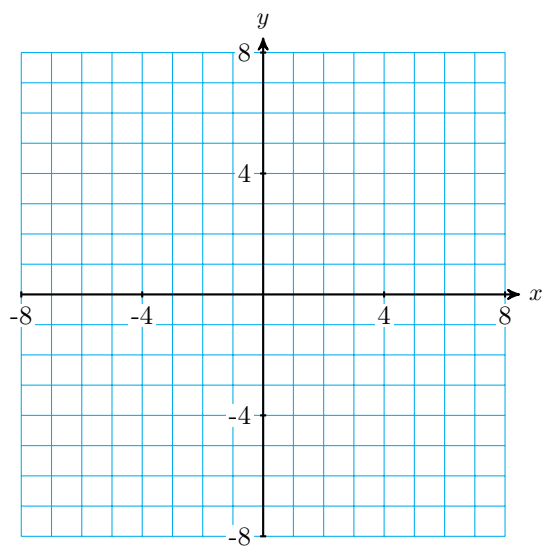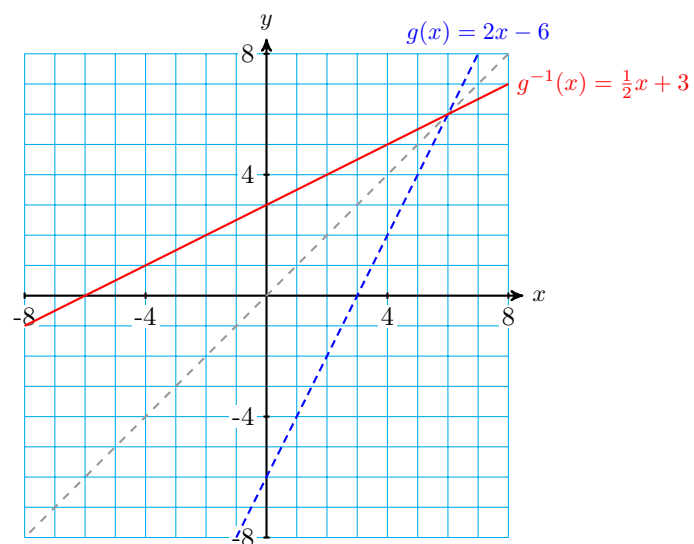
fig-8-2-2ans linear function and inverse $y = x$

fig-8-2-3 parabolas

F

F^{-1}

exam8-2-3 three graphs

8

I

II

III
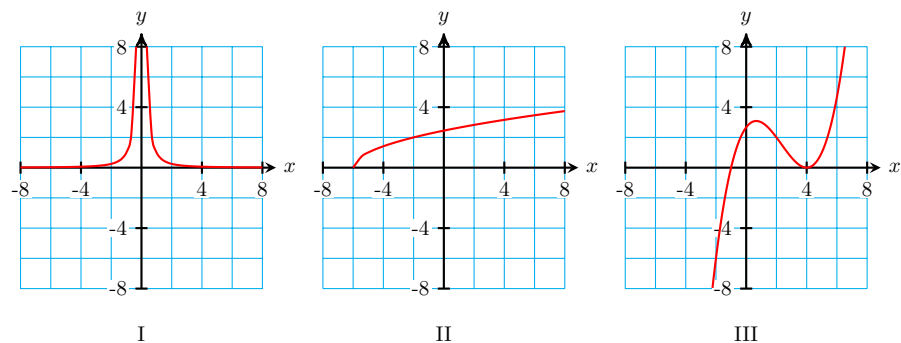
exer8-2-3 three graphs

I

II

III
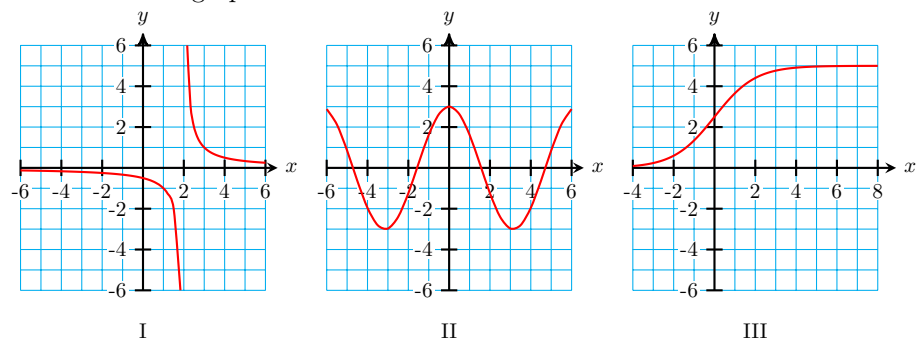
fig-8-2-4 parabolas

f

f^{-1}
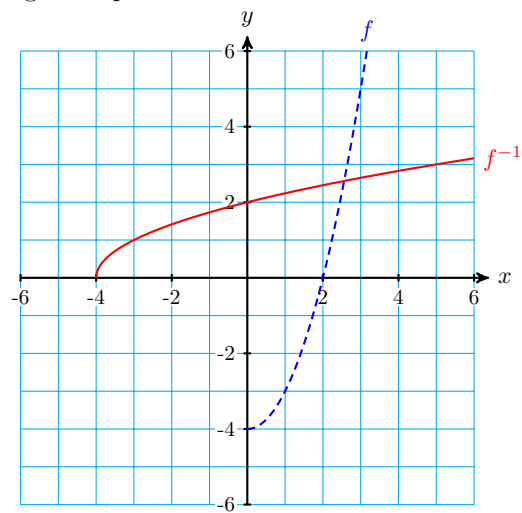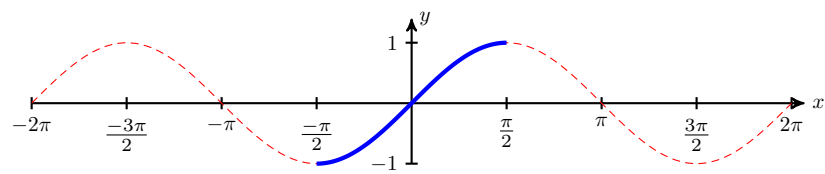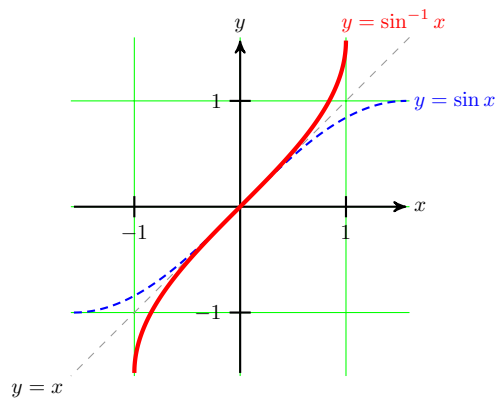
fig-8-2-5 restricted sine
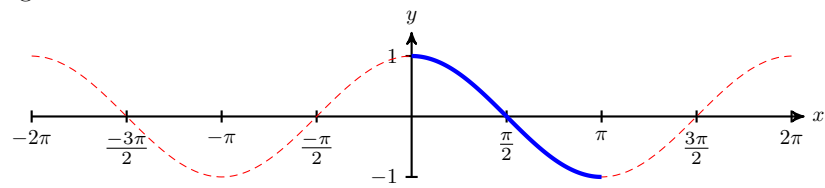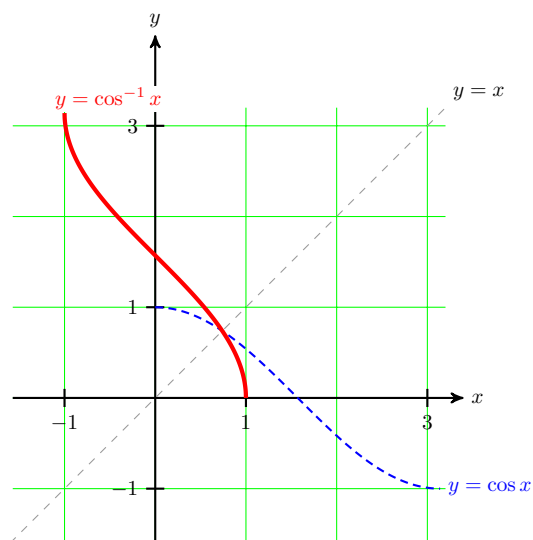
fig-8-2-6 inverse sine
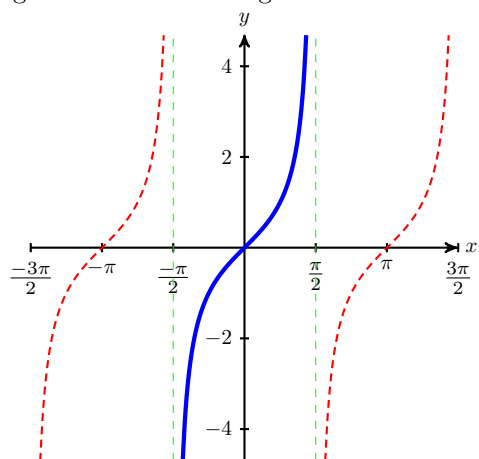

fig-8-2-7 restricted cosine
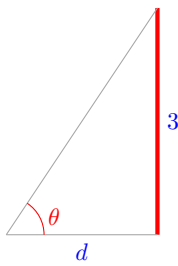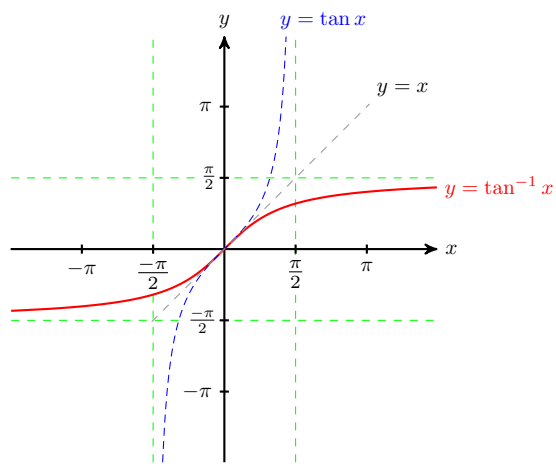

fig-8-2-8 inverse sine

fig-8-2-9 restricted tangent

fig-8-2-10 inverse tangent

$y = \tan x$

$y = x$

$y = \tan^{-1} x$
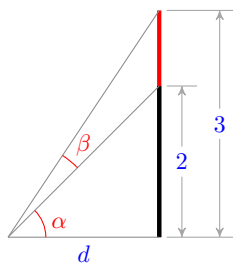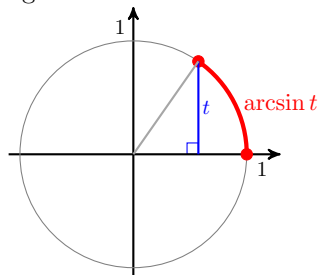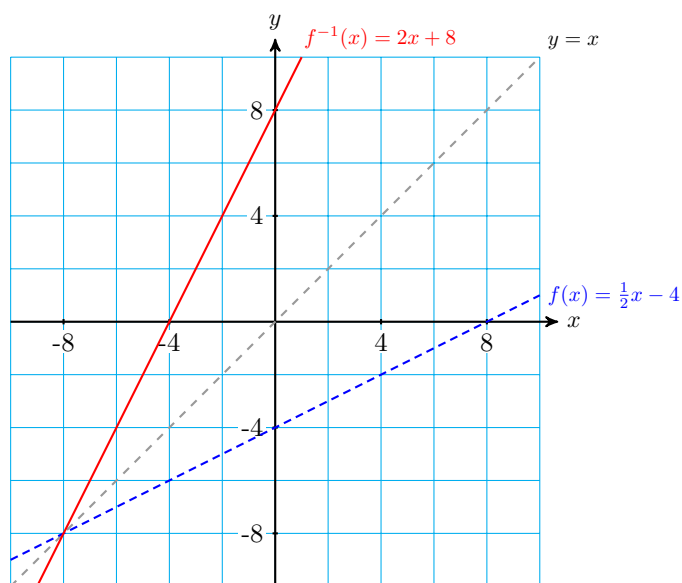
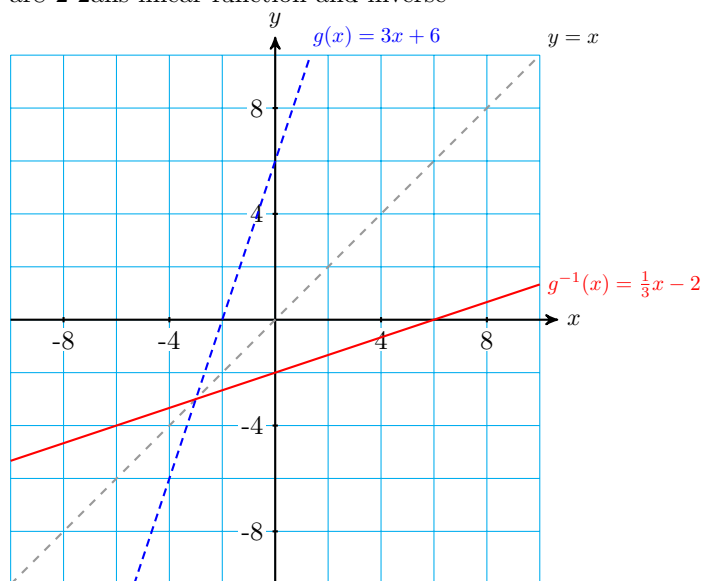exam8-2-7 triangle

exer8-2-7 triangle
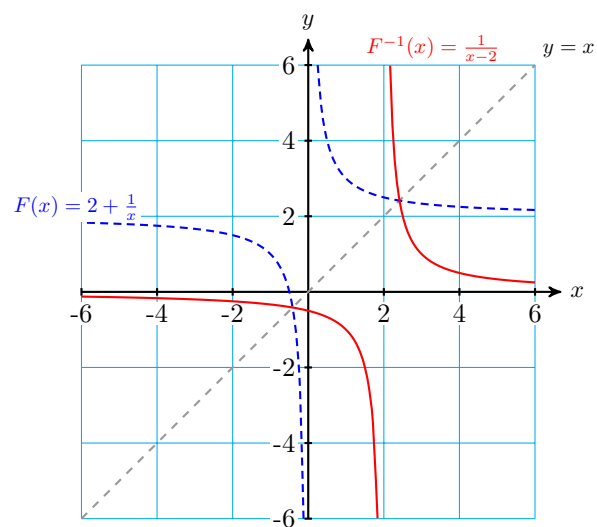

fig-8-2-11 unit circle

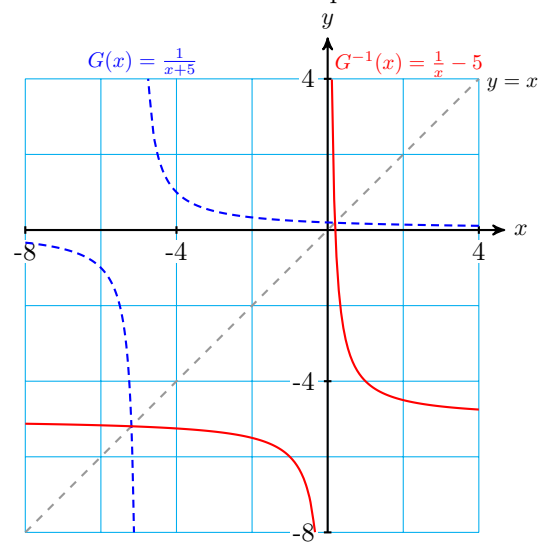
ar8-2-1ans linear function and inverse

12

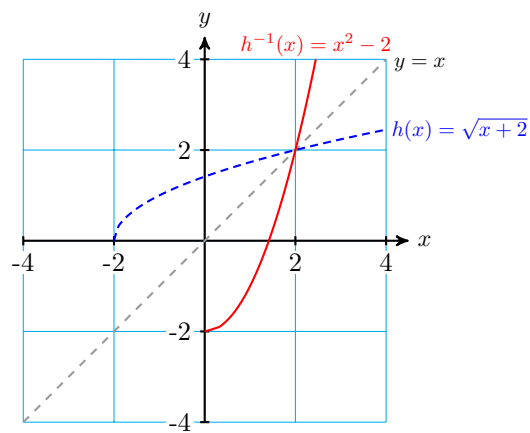ar8-2-2ans linear function and inverse
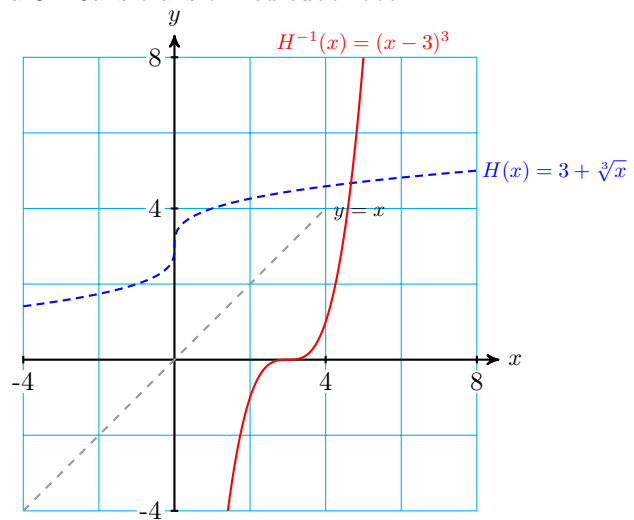

ar8-2-3ans transformed reciprocal function

ar8-2-4ans transformed reciprocal function

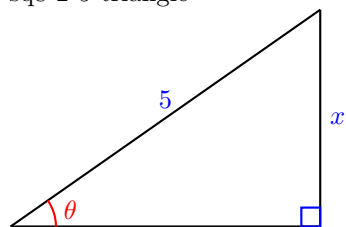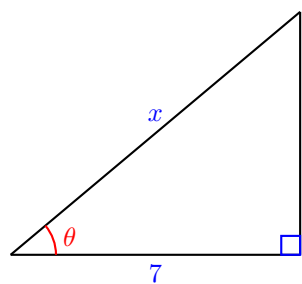ar8-2-5ans transformed square root

y

$h^{-1}(x) = x^2 - 2$

$y = x$

$h(x) = \sqrt{x+2}$

ar8-2-6ans transformed cube root

y

$H^{-1}(x) = (x-3)^3$
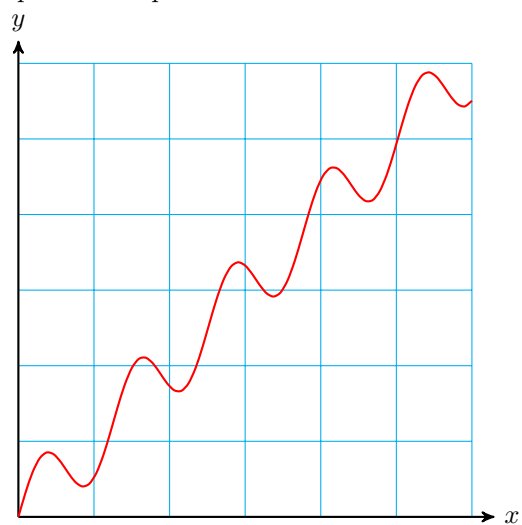
$H(x) = 3 + \sqrt[3]{x}$
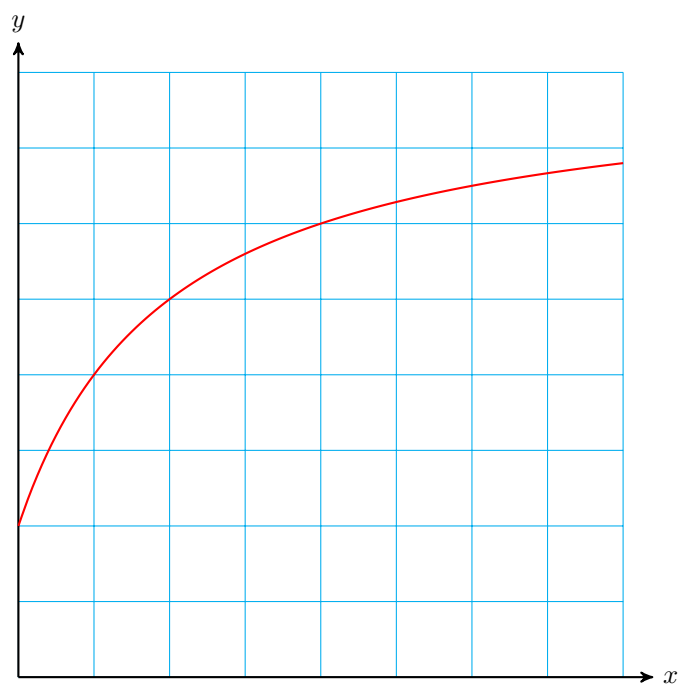
$y = x$

sq8-2-5 triangle
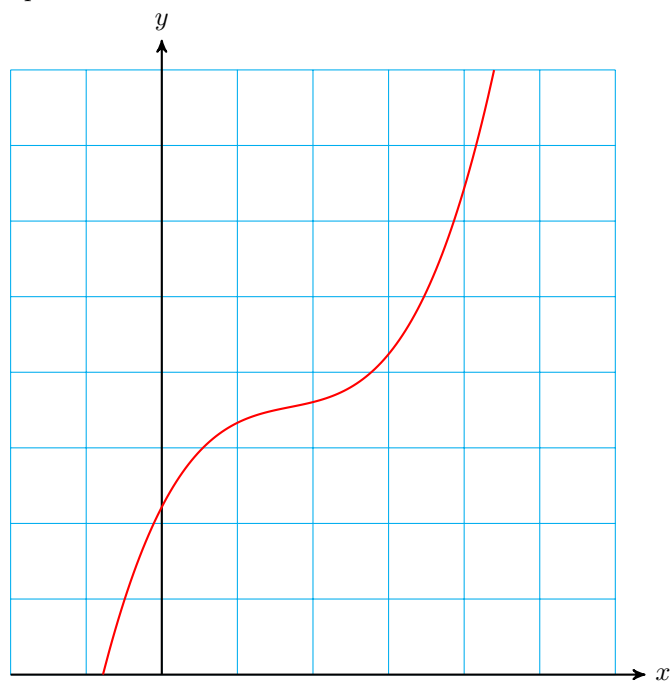

5

x

θ

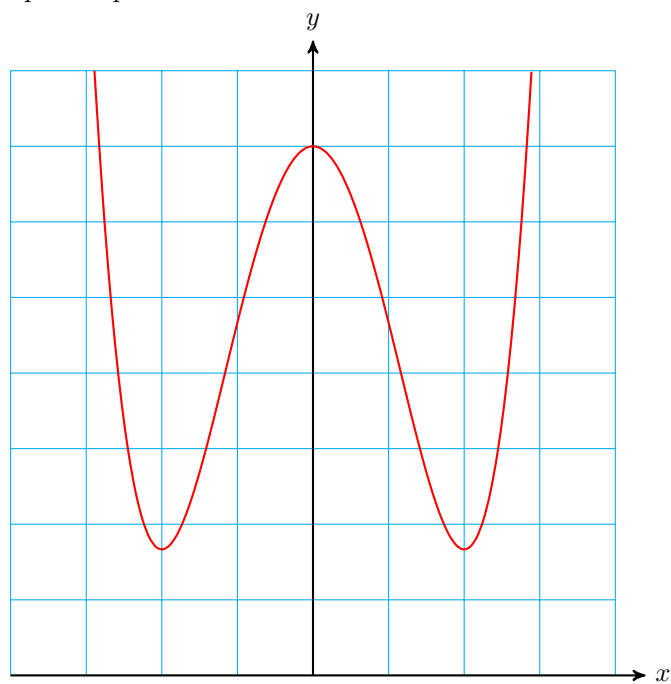sq8-2-6 triangle
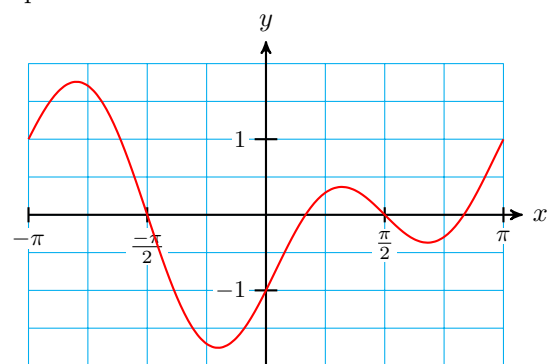
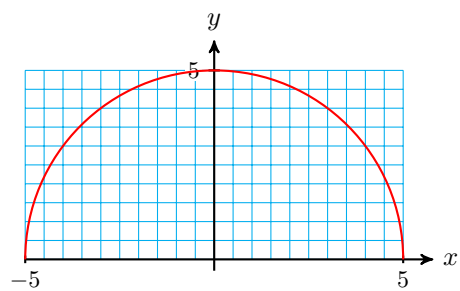hp8-2-1 sine plus linear

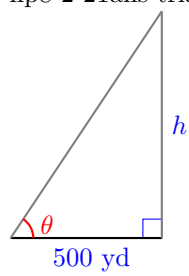hp8-2-2 y=8-12/(x+2)

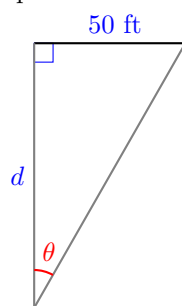hp8-2-3 transformed cubic

17

hp8-2-4 quartic
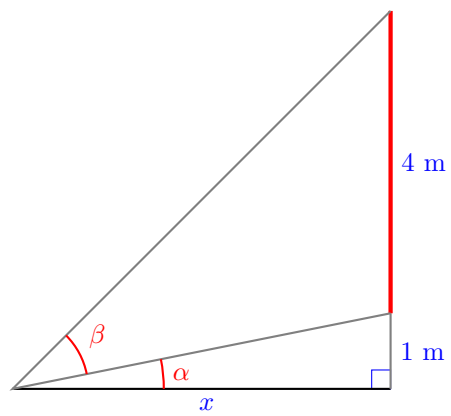

hp8-2-5ans sin2x - cos x
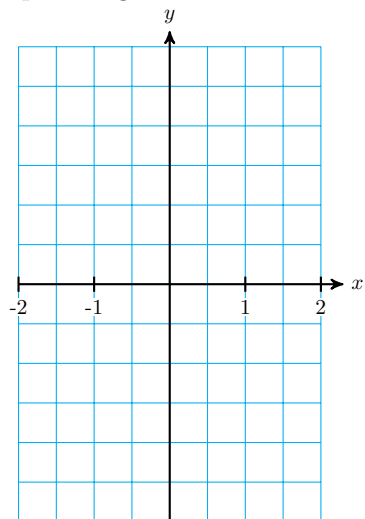

hp8-2-7ans $\sqrt{25 = x^2}$

hp8-2-21ans triangle

h

θ

500 yd

hp8-2-23ans triangle

50 ft

d

θ

hp8-2-25ans triangle [scale=.8]
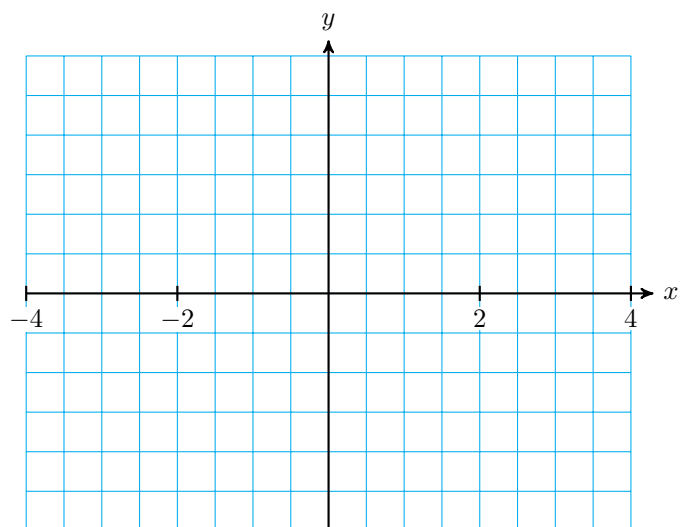
4 m

1 m

β

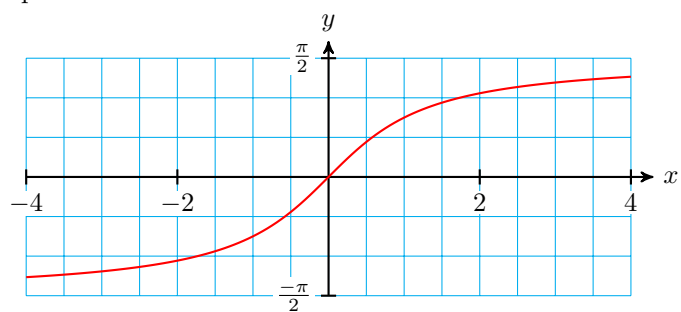α

x

hp8-2-45 grid

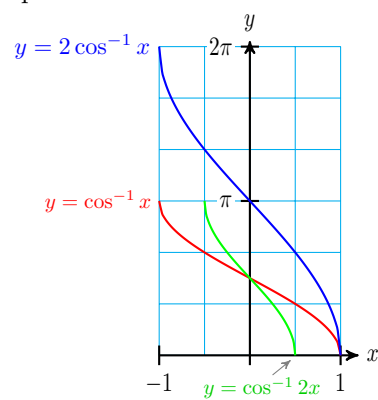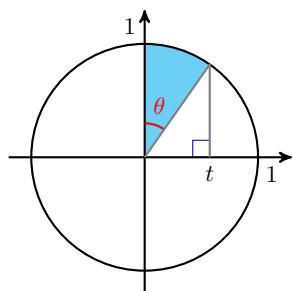hp8-2-45ans arccos
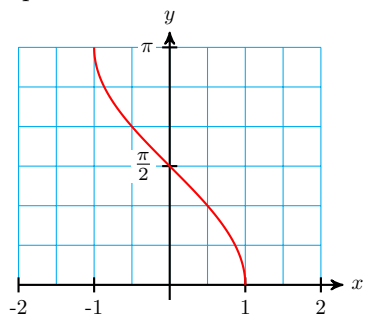
hp8-2-47 grid

hp8-2-47ans arctan

hp8-2-49ans transformed arccos

hp8-2-73 unit circle

hp8-2-73 unit circle